

AMENDMENTS TO THE CLAIMS

1-51. (Canceled)

52. (Currently Amended) A method of conferring resistance to protoporphyrinogen oxidase-inhibiting herbicides upon the green algae *Chlamydomonas* or cells thereof, comprising introducing a DNA fragment or a plasmid containing the DNA fragment into the ~~algal cells~~ algae or algal cells, wherein said DNA fragment has the following characteristics:

(1) said DNA fragment is 2.6 to 13.8 kb in length;

(2) said DNA fragment has a sequence that can be detected and isolated by DNA-DNA or DNA-RNA hybridization to a nucleic acid sequence that is complementary to a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:1, wherein said DNA-DNA or DNA-RNA hybridization occurs under 2X PIPES buffer, 50% deionized formamide, 0.5% (w/v) SDS, 500 µg/ml denatured sonicated salmon sperm DNA at 42°C overnight; and said DNA fragment remains hybridized after washing in 0.2X SSC, 0.1% (w/v) SDS at 68°C;

(3) said DNA fragment encodes an amino acid sequence in which an amino acid at a position corresponding to position 13 of SEQ ID NO:1 is an amino acid other than valine; and

(4) said DNA fragment has an ability to confer resistance to protoporphyrinogen oxidase-inhibiting herbicides in cells of the green algae *Chlamydomonas* when introduced therein.

53-58. (Canceled)

59. (Currently Amended) A method of selecting ~~plant or algal cells~~ the green algae *Chlamydomonas* or cells thereof upon which resistance to protoporphyrinogen oxidase-inhibiting herbicides is conferred, which comprises:

treating a population of ~~plant or algal cells~~ the algae or algal cells, upon which resistance to protoporphyrinogen oxidase-inhibiting herbicides is conferred by the method according to ~~any one of claims 48 to 57~~ claim 52, with a protoporphyrinogen oxidase-inhibiting herbicide in an amount which normally blocks growth of said ~~plant~~ algae or algal cells expressing only herbicide-sensitive protoporphyrinogen oxidase.

60-65. (Canceled)

66. (Previously Presented) An isolated DNA fragment which has the following characteristics:

- (1) said DNA fragment is 2.6 to 13.8 kb in length;
- (2) said DNA fragment has a sequence that can be detected and isolated by DNA-DNA or DNA-RNA hybridization to a nucleic acid sequence that is complementary to a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:1, wherein said DNA-DNA or DNA-RNA hybridization occurs under 2X PIPES buffer, 50% deionized formamide, 0.5% (w/v) SDS, 500 µg/ml denatured sonicated salmon sperm DNA at 42 °C overnight; and said DNA fragment remains hybridized after washing in 0.2X SSC, 0.1% (w/v) SDS at 68 °C;
- (3) said DNA fragment encodes an amino acid sequence in which an amino acid at a position corresponding to position 13 of SEQ ID NO:1 is an amino acid other than valine; and

(4) said DNA fragment has an ability to confer resistance to protoporphyrinogen oxidase-inhibiting herbicides in cells of the green alga *Chlamydomonas* when introduced therein.

67-71. (Cancelled)

72. (Previously Presented) The method according to claim 52, wherein the nucleic acid sequence encoding the amino acid sequence of SEQ ID NO:1 is the nucleotide sequence of SEQ ID NO:4.

73. (Previously Presented) The method according to claim 52, wherein the amino acid at the position corresponding to position 13 of SEQ ID NO:1 is methionine.

74. (Previously Presented) The method according to claim 52, wherein said DNA fragment is 2.6 kb to 3.4 kb in length.

75. (Previously Presented) The method according to claim 52, wherein said DNA fragment is 2.6 kb to 10.0 kb in length.

76. (Previously Presented) The method according to claim 52, wherein said DNA fragment is obtained from an algal cell.

77. (Previously Presented) A green alga *Chlamydomonas* upon which resistance is conferred by the method according to claim 52.

78. (Previously Presented) The isolated DNA fragment according to claim 66, wherein said amino acid other than valine is methionine.

79. (Previously Presented) The isolated DNA fragment according to claim 66, wherein the nucleotide sequence encoding the amino acid sequence of SEQ ID NO:1 is the nucleotide sequence of SEQ ID NO: 4.

80. (Previously Presented) The isolated DNA fragment according to claim 79, wherein a nucleotide corresponding to position 37 (G37) of SEQ ID NO: 4 is a nucleotide other than guanine in the sequence of the DNA fragment.

81. (Previously Presented) The isolated DNA fragment according to claim 80, wherein said nucleotide other than guanine is adenine.

82. (Previously Presented) The isolated DNA fragment according to claim 66, wherein said DNA fragment is 2.6 kb in length.

83. (Previously Presented) A plasmid comprising the DNA fragment according to claim 66.